

January 8, 2001

Dear Colleague:

We would like to invite you to participate in a one-day workshop on April 17, 2001 entitled:

"Building and Testing Regional Models for Seismic Monitoring".

This will be a focused workshop on regional scale models specifically intended for use in monitoring. It was apparent at the September Symposium in New Orleans that there are now many regional models both tomographic and *a priori* that can be used in a variety of monitoring applications such as location, phase-match filtering  $M_s$ , moment tensor analysis, waveform modeling, etc. In discussions with many of you at the September meeting there was a consensus that the time is ripe for a broader workshop on the regional models, their construction, their intended uses and their uncertainties. Goals for the workshop include: discussion on the motivation for each group's models (e.g. predicting surface wave or body phase arrivals), comparison of each group's model in terms of elastic parameters and seismic predictions, and methods of model validation. We plan to do this in a hands-on way for a specific set of test data and geographic regions. Please see the proposed format and agenda (attached) for more details. It is our hope that the workshop will produce a common understanding of the different modeling research efforts, encouraging discussion between groups, future data exchanges and spurring consensus on the difficult problem of quantifying model uncertainty.

This workshop is follow-on to the 1998 "Workshop on the U.S. Use of Surface Waves for Monitoring the CTBT" convened by Mike Ritzwoller and Bill Walter. In that workshop we defined a test region and a set of event-station pairs and compared the surface wave group velocity curves and tomography results of several different research groups. We plan to use a similar format for this workshop. Measurement comparisons produced a vigorous discussion, an agreement on a standard way to measure group velocity and a group velocity curve exchange that has benefited all of the research groups. For this workshop, it is our intention to foster similar interactions between the groups. We intend that ideas and debate generated at this workshop will carry over to the following SSA meeting where there will be more time available for discussion. We feel that one day should be sufficient amount of time to introduce the models, make comparisons and initiate these discussions.

The workshop will be hosted by the Ground-based Nuclear Explosion Monitoring (GNEM) program at Lawrence Livermore National Laboratory (LLNL). The workshop will be held at LLNL on Tuesday, April 17, the day before the SSA meeting (4/18-4/20) which is in San Francisco this year at the Cathedral Hill Hotel. The SSA abstract deadline in January 19, 2001. Please note that there are two special sessions relevant to this workshop at the SSA meeting this year: 1) "Problems in Detection, Location and

Discrimination", convened by Bill Walter and Craig Schultz; and 2) "3D Earth Models at Regional and Global Scales", convened by Harold Magistrale, Jeroen Ritsema and Walter Mooney.

We invite any and all comments and suggestions on the goals, format and agenda of this workshop. We ask that these comments as well as an indication of whether you can attend the workshop be sent in by February 14, 2001. At the end of February we will send out a second mailing with the final agenda, list of attendees and directions to the workshop location. In the next few weeks we will establish a web site at LLNL with information about the workshop, and links to the research groups web pages. We will send out an additional e-mail once the site is established. We want to thank the many colleagues we spoke with at the New Orleans Symposium and the Fall AGU meeting for suggestions, ideas and encouragement to move forward with this workshop. We look forward to meeting with you in April.

Sincerely,

Bill Walter - Email: [bwalter@llnl.gov](mailto:bwalter@llnl.gov), Phone: 925-423-8777

Michael Pasyanos - Email: [pasyanos1@llnl.gov](mailto:pasyanos1@llnl.gov), Phone: 925-423-6835

Megan Flanagan - Email: [flanagan5@llnl.gov](mailto:flanagan5@llnl.gov), Phone: 925-422-3945

Steve Myers - Email: [myers30@llnl.gov](mailto:myers30@llnl.gov), Phone: 925-423-4988

Craig Schultz - Email: [cshultz@llnl.gov](mailto:cshultz@llnl.gov), Phone: 925-422-5798

Artie Rodgers - Email: [rogers7@llnl.gov](mailto:rogers7@llnl.gov), Phone: 925-423-5018